

# ABSTRACT

The invention relates to a device for depositing especially crystalline layers on at least one especially crystalline substrate in a process chamber comprising a top and a vertically opposing heated bottom for receiving the substrates. A gas-admittance body forming vertically superimposed gas-admittance regions is used to separately introduce at least one first and one second gaseous starting material, said starting materials flowing through the process chamber with a carrier gas in the horizontal direction. The gas flow homogenises in an admittance region directly adjacent to the gas-admittance body, and the starting materials are at least partially decomposed, forming decomposition products which are deposited on the substrates in a growth region adjacent to the admittance region, under continuous depletion of the gas flow. An additional gas-admittance region of the gas-admittance body is essential for one of the two starting materials, in order to reduce the horizontal extension of the admittance region.